

PROJECT DESCRIPTION

I. GENERAL:

THIS PROJECT INVOLVES THE RECONSTRUCTION OF AN EXISTING TRAFFIC SIGNAL AT THE INTERSECTION OF MD 197 (COLLINGTON ROAD) AND KENHILL DRIVE/LONDON LANE IN PRINCE GEORGE'S COUNTY.

MD 197 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

II. INTERSECTION OPERATION:

THE PROPOSED TRAFFIC SIGNAL WILL CONTINUE TO OPERATE IN A FULLY ACTUATED MODE USING SIX (6) NEMA PHASES.

MAINLINE MD 197 OPERATES CONCURRENTLY WITH EXCLUSIVE/PERMISSIVE LEFT TURN PHASING. A PEDESTRIAN MOVEMENT CROSSING KENHILL DRIVE IS ON RECALL DURING THIS PHASE. THE KENHILL DRIVE/LONDON LANE APPROACHES OPERATE IN SIDE STREET SPLIT PHASE MODE. AN ACTUATED PEDESTRIAN MOVEMENT CROSSING THE NORTH LEG OF MD 197 IS PROVIDED DURING THE WESTBOUND PHASE. THIS INTERSECTION IS PART OF THE MD 197 INTERCONNECT SIGNAL SYSTEM.

VIDEO CAMERAS SHALL PROVIDE PRESENCE DETECTION. A NEW NEMA "S" CABINET WILL BE INSTALLED WITH ALL NECESSARY EQUIPMENT.

THE EXISTING PEDESTRIAN CROSSINGS AND APS/OPS SIGNALS AND ADA RAMP WILL REMAIN, WITH THE EXCEPTION OF THE SOUTHEAST PEDESTAL POLE AND THE MEDIAN CUT-THROUGH, WHICH WILL BE RECONSTRUCTED.

AUDIBLE PUSHBUTTON FUNCTION SHALL BE AS FOLLOWS:

1. WHEN A PEDESTRIAN LOCATES AND PRESSES THE PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE THE FOLLOWING MESSAGE:
FOR SOUTHEAST LEG, "WAIT TO CROSS KENHILL AT COLLINGTON, WAIT"

2. WHEN THE "WALK" PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL CONTINUE FOR THE DURATION OF THE "WALK" PHASE.

III. SPECIAL NOTES:

MAINTENANCE OF TRAFFIC WILL BE HANDLED BY THE CONTRACTOR UTILIZING THE STANDARD PLATES FOR TRAFFIC CONTROL FROM SECTION MD 104 OF THE SHA BOOK OF STANDARDS FOR HIGHWAYS & INCIDENTAL STRUCTURES.

EQUIPMENT LIST "A"

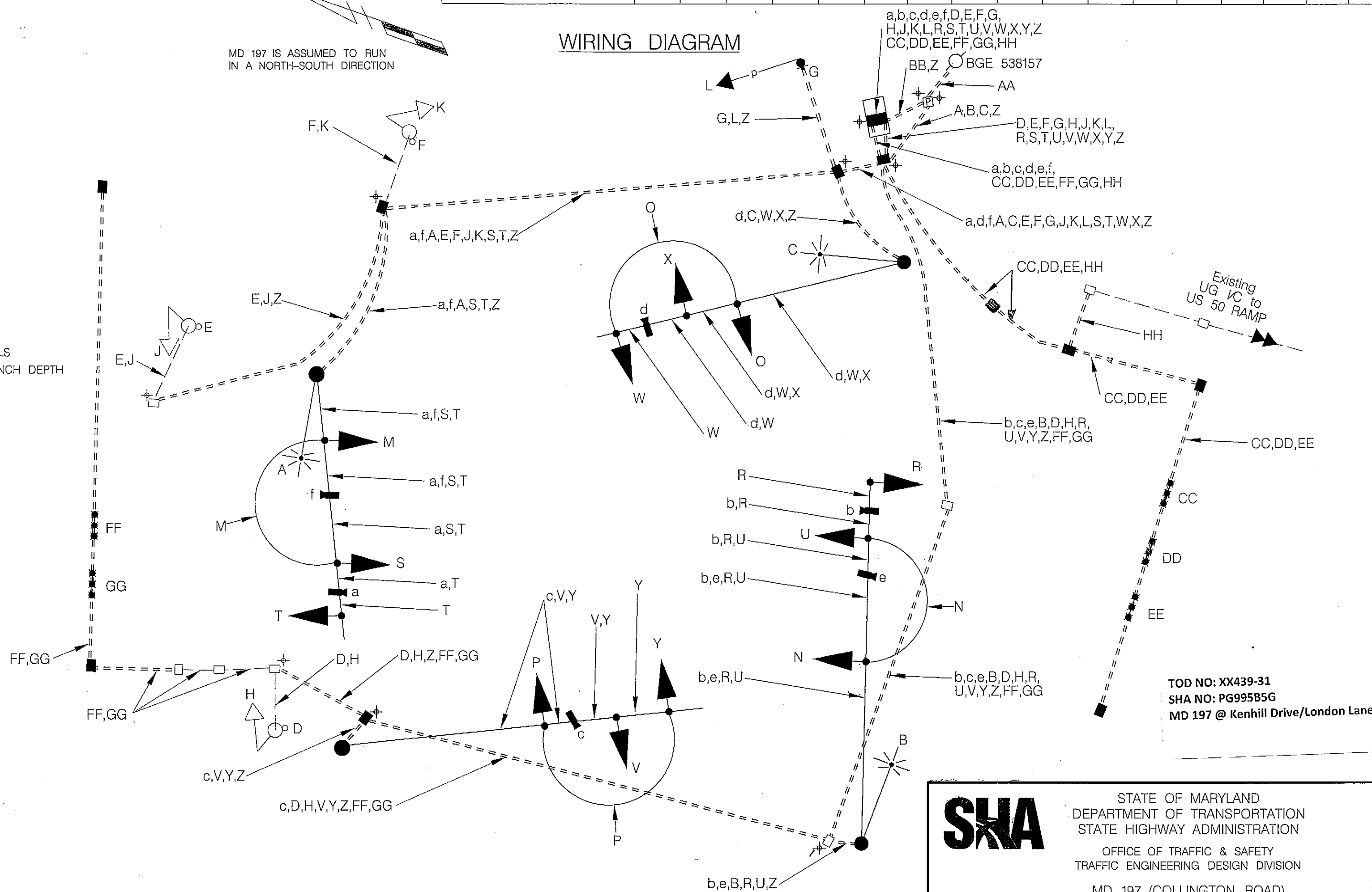
A. EQUIPMENT TO BE SUPPLIED BY THE ADMINISTRATION.

CATEGORY	QUANTITY	DESCRIPTION
9104	1 EA	CONTROLLER CABINET, SIZE "S" WCTL/VIDEO INT. 1-8 CAM.
9110	1 EA	UPS EQUIPMENT FOR "S" CABINET
9118	2 EA	4 CHANNEL DETECTOR AMPLIFIER
9570	219 SF	SHEET ALUMINUM, GROUND MOUNTED SIGNS CONSISTING OF: R5-1 DO NOT ENTER (36" X 36") GROUND MOUNT R3-7R "RIGHT LANE MUST TURN RIGHT" (36" X 36") GROUND MOUNT R3-7L "LEFT LANE MUST TURN LEFT" (36" X 36") GROUND MOUNT R3-7(2)R "RIGHT LANE MUST TURN RIGHT AT KENHILL DRIVE" (30" X 42") GROUND MOUNT R4-7 KEEP RIGHT (24" X 30") GROUND MOUNT S1-1 SCHOOL CROSSING (36" X 36") GROUND MOUNT W16-7p(R) DIAGONAL ARROW (24" X 12") GROUND MOUNT W16-7p(L) DIAGONAL ARROW (24" X 12") GROUND MOUNT W4-2(R) RIGHT LANE ENDS (36" X 36") GROUND MOUNT W9-2(2) "LANE ENDS" (48" X 48") GROUND MOUNT W9-2(3) "MERGE LEFT" (30" X 24") GROUND MOUNT W6-1 DIVIDED HIGHWAY (36" X 36") GROUND MOUNT W6-2 DIVIDED HIGHWAY ENDS (36" X 36") GROUND MOUNT W6-3 TWO WAY TRAFFIC (30" X 36") GROUND MOUNT
9571	149 SF	SHEET ALUMINUM MAST ARM/POLE MOUNTED SIGNS CONSISTING OF: D-3(1) "KENHILL DR" RIGHT ARROW, LEFT ARROW "KENHILL DR" (VAR X 16") DUAL FACED MAST ARM MOUNT D-3(1) "LONDON LN" RIGHT ARROW, LEFT ARROW "KENHILL DR" (VAR X 16") DUAL FACED MAST ARM MOUNT D-3(1) "COLLINGTON RD" (VAR X 16") DUAL FACED MAST ARM MOUNT R3-6L LEFT AND THROUGH (30" X 36") MAST ARM MOUNT R3-6R RIGHT "ONLY" (30" X 36") MAST ARM MOUNT R3-6L LEFT "ONLY" (30" X 36") MAST ARM MOUNT W9-2(4) "LANE ENDS MERGE LEFT" (30" X 42") MAST ARM MOUNT M1-5(6) "SOUTH", "MARYLAND 197", RIGHT ARROW (30" X 48") POLE MOUNT M1-5(6) "NORTH", "MARYLAND 197", RIGHT ARROW (30" X 48") POLE MOUNT M1-5(6) "SOUTH", "MARYLAND 197", LEFT ARROW (48" X 72") POLE MOUNT M1-5(6) "NORTH", "MARYLAND 197", LEFT ARROW (48" X 72") POLE MOUNT R10-3(1) PUSHBUTTON SIGN (9" X 15") POLE MOUNT "TO CROSS KENHILL DRIVE"

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PHASE 1 + 5	R	R	R	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW
PHASE 1 + 5 CHANGE TO PHASE 1 & 6 OR 2 & 5 OR 2 & 6	G	G	G	G	G	G	G	G	G	G	G	G	DW	DW	WK	WK
PHASE 1 + 6	G	G	G	R	R	R	R	R	R	R	R	R	DW	DW	WK	WK
PHASE 1 CHANGE	G	G	G	R	R	R	R	R	R	R	R	R	DW	DW	WK	WK
PHASE 2 & 5	R	R	R	G	G	G	R	R	R	R	R	R	DW	DW	DW	DW
PHASE 5 CHANGE	R	R	R	G	G	G	R	R	R	R	R	R	DW	DW	DW	DW
PHASE 2 & 6	G	G	G	G	G	G	R	R	R	R	R	R	DW	DW	WK	WK
PED CLEAR & COUNTDOWN	G	G	G	G	G	G	R	R	R	R	R	R	DW	DW	FL/DW	FL/DW
PHASE 2 & 6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW
PHASE 3	R	R	R	R	R	R	G	G	G	R	R	R	DW	DW	DW	DW
PHASE 3 CHANGE	R	R	R	R	R	R	Y	Y	Y	R	R	R	DW	DW	DW	DW
PHASE 4	R	R	R	R	R	R	R	R	R	G	G	G	DW	DW	DW	DW
PHASE 4 CHANGE	R	R	R	R	R	R	R	R	R	Y	Y	Y	DW	DW	DW	DW
PHASE 4 ALT.	R	R	R	R	R	R	R	R	R	G	G	G	WK	WK	DW	DW
PED CLEAR & COUNTDOWN	R	R	R	R	R	R	R	R	R	G	G	G	FL/DW	FL/DW	DW	DW
PHASE 4 ALT. CHANGE	R	R	R	R	R	R	R	R	R	Y	Y	Y	DW	DW	DW	DW
FLASHING OPERATION	FLY	FLY	FLY	FLY	FLY	FLY	FLY	FLY	FLY	FLY	FLY	FLY	DARK	DARK	DARK	DARK

WIRING DIAGRAM



TOD NO: XX439-31
SHA NO: PG99585G
MD 197 @ Kenhill Drive/London Lane

PROJECT CONTACTS

THE CONTACT PERSONS FOR THIS PROJECT ARE AS FOLLOWS:

MR. VENU NEMANI ASST. DISTRICT ENGINEER-TRAFFIC PHONE: 301-513-7404	MR. EDWARD RODENHIZER CHIEF-SIGNAL OPERATIONS SECT. PHONE: 410-787-7650
MR. TOM FOUNTAIN ASST. DISTRICT ENGINEER-MAINTENANCE PHONE: 301-513-7304	MR. SONNY BAILEY CHIEF-SIGN SHOP PHONE: 410-787-7670
MR. VICTOR GRAFTON UTILITY ENGINEER PHONE: 301-513-7350	MR. MIKE STOCKER SUPERVISOR, SIGNAL WAREHOUSE PHONE: 410-787-7668
MS. CORREN JOHNSON CHIEF-TRAFFIC OPERATIONS DIV. PHONE: 410-787-7630	POWER COMPANY REPRESENTATIVE - PEPCO (PG): MR. RICHARD CHILCOAT, SERVICE ASSOCIATE PEPCO ENGINEERING 8800 OLD MARLBORO PIKE UPPER MARLBORO MARYLAND 20772 PHONE: 301-967-5805, FAX: 301-967-5820 EMAIL: RACHILCOAT@PEPCO.COM

EQUIPMENT LIST "B"

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR.

ITEM NO.	QUANTITY	DESCRIPTION
1001	3 EA	MAINTENANCE OF TRAFFIC
2002	4 CY	TEST PIT EXCAVATION
5002	72 LF	5" HEAT APPLIED WHITE OR YELLOW PERMANENT PAVEMENT MARKINGS
5005	31 LF	24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES
5006	173 SF	WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LEGENDS AND SYMBOLS
6001	20 LF	STANDARD TYPE A COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH DEPTH
6002	310 SF	5 INCH CONCRETE SIDEWALK
6003	84 SF	DETECTABLE WARNING SURFACE FOR CURB RAMPS
8001	36 EA	12 INCH LED SIGNAL HEAD SECTION
8002	1 EA	2-WIRE CENTRAL CONTROL UNIT
8004	12 EA	8 INCH LED SIGNAL HEAD SECTION
8005	7 EA	ADJUST HANDHOLE TO GRADE WITH NEW FRAME AND COVER
8008	1 EA	AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION AND SIGNS
8009	1 EA	BREAKAWAY PEDESTAL POLE (ANY SIZE)
8012	1 EA	EMBEDDED METERED SERVICE PEDESTAL WITH BYPASS SWITCH
8014	1 EA	INSTALL CONTROLLER & CABINET BASE MOUNT (ANY SIZE)
8016	1 EA	LED 16 INCH COUNTDOWN PEDESTRIAN SIGNAL HEAD
8019	1 EA	MAST ARM POLE & 50' MAST ARM ANY "T" DIMENSION
8020	1 EA	MAST ARM POLE & 60' MAST ARM ANY "T" DIMENSION
8021	2 EA	MAST ARM POLE & 70' MAST ARM ANY "T" DIMENSION
8023	5 EA	NONINVASIVE DETECTOR (ANY LENGTH) LEAD-IN CABLE UP TO 1000'
8024	1 EA	REMOVE AND DISPOSE OF EQUIPMENT (PER ASSIGNMENT)
8029	6 EA	VIDEO DETECTION CAMERA AND CABLE ANY LENGTH
8031	210 LF	1-CONDUCTOR ELECTRICAL CABLE, NO. 20 AWG/THHN
8034	720 LF	DISCONNECT, PULL-BACK & REROUTE CABLES
8035	700 LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 12 AWG) TYPE TC
8038	225 LF	UP TO 4 INCH SCHEDULE 80 RIGID PVC CONDUIT - BORED
8039	300 LF	UP TO 4 INCH SCHEDULE 80 RIGID PVC CONDUIT - SLOTTED
8040	645 LF	UP TO 4 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
8041	300 LF	WOOD SIGN SUPPORTS UP TO 4" X 6"
8042	362 SF	INSTALL OVERHEAD OR GROUND MOUNTED SIGN (INCLUDING ALL HARDWARE)
8044	680 LF	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
8047	60 LF	ELECTRICAL CABLE 1-CONDUCTOR NO. 8 AWG-THHN/THWN
8048	10 EA	FURNISH AND INSTALL ELECTRICAL HANDHOLE
8053	1 EA	CUT, CLEAN, GALVANIZE AND CAP TRAFFIC SIGNAL STRUCTURE
8055	800 LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)
8057	880 LF	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)
8058	2380 LF	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)
8071	3 EA	NEG - APPROVED - FURNISH & INSTALL ANY SIZE LIGHTING ARM WITH LED COBRA HEAD
5003	40 LF	REMOVAL OF EXISTING PERMANENT PAVEMENT LINE MARKINGS

EQUIPMENT LIST "C"

SHA FORCES SHALL REMOVE THE CONTROLLER AND ALL AUXILIARY EQUIPMENT FROM THE CONTROLLER CABINET. THE CABINET AND ALL OTHER MATERIALS TO BE REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

WIRING KEY

a,b,c,d,e,f	VIDEO DETECTION CAMERA LEAD IN CABLE
A,B,C	2 CONDUCTOR NO. 12 AWG TYPE TC
D,E,F,G	2 CONDUCTOR NO. 14 AWG ELECTRICAL CABLE
H,J,K,L,M,N,O,P	5 CONDUCTOR NO. 14 AWG ELECTRICAL CABLE
R,S,T,U,V,W,X,Y	7 CONDUCTOR NO. 14 AWG ELECTRICAL CABLE
Z	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
AA	1-CONDUCTOR ELECTRICAL CABLE, NO. 20 AWG THHN (3 CABLES)
BB	1 CONDUCTOR NO. 8 AWG THHN/THWN ELECTRICAL CABLE (3 CABLES)
CC,DD,EE,FF,GG	NON INVASIVE DETECTOR LEAD IN CABLE
HH	EXISTING INTERCONNECT CABLE TO BE PULLED BACK RE-ROUTE TO NEW CONTROLLER (SEE NOTE ON SHEET SG-1)
+	GROUND ROD (3/4" DIA. X 10 FT. LENGTH)
+	EXISTING GROUND ROD

SHA

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION
MD 197 (COLLINGTON ROAD)
AT KENHILL DRIVE / LONDON LANE
BOWIE, MARYLAND

GENERAL INFORMATION PLAN

SCALE NONE ADVERTISED DATE APRIL 2013 CONTRACT NO. XX4395185

DESIGNED BY WAE COUNTY PRINCE GEORGE'S

DRAWN BY PMH LOGMILE 160197201.90

CHECKED BY W5 TMS NO. J903

F.A.P. NO. TOD NO.

TS NO. 7 F DRAWING SG - 2 OF 2 SHEET NO. 2 OF 3

PLOTTED: Thursday, May 02, 2013 AT 11:19 AM
FILE: \\Server02\wae_files\01_Project\081_TEDD-BA\01_Task Work\081_0101_Task01 - MD197-Kenhill Dr\081_010102_Analysis\CADD\p503-P002_MD197_KenhillDr.dgn